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ENVIRONMENTAL ASSESSMENT BOARD



ONTARIO HYDRO DEMAND/SUPPLY PLAN HEARINGS

VOLUME: 9

DATE: Tuesday, May 7, 1991


BEFORE:

HON. MR. JUSTICE E. SAUNDERS	Chairman
DR. G. CONNELL	Member
MS. G. PATTERSON	Member

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ENVIRONMENTAL ASSESSMENT BOARD
ONTARIO HYDRO DEMAND/SUPPLY PLAN HEARING

IN THE MATTER OF the Environmental Assessment Act,
R.S.O. 1980, c. 140, as amended, and Regulations
thereunder;

AND IN THE MATTER OF an undertaking by Ontario Hydro
consisting of a program in respect of activities
associated with meeting future electricity
requirements in Ontario.

Held on the 5th Floor, 2200
Yonge Street, Toronto, Ontario,
on Tuesday, the 7th day of May,
1991, commencing at 10:00 a.m.

VOLUME 9

B E F O R E :

THE HON. MR. JUSTICE E. SAUNDERS	Chairman
DR. G. CONNELL	Member
MS. G. PATTERSON	Member

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I N D E X o f P R O C E E D I N G S

Page No.

<u>MITCHELL PIERSON ROTHMAN,</u> <u>PAUL JONATHAN BURKE,</u> <u>LILY BUJA-BIJUNAS; Resumed</u>	1570
Cross-Examination by Mr. Greenspoon (Cont'd)	1570
Cross-Examination by Mr. M. Campbell	1597

1 ---Upon commencing at 10:02 a.m.

2 THE REGISTRAR: Please come to order.

3 This hearing is now in session. Please be seated.

4 THE CHAIRMAN: Mr. Greenspoon?

5 MR. GREENSPOON: Thank you.

6 Mr. Chairman, I have four short areas to
7 deal with this morning. I expect I won't be very long.

8 MITCHELL PIERSON ROTHMAN,
9 PAUL JONATHAN BURKE,
 LILY BUJA-BIJUNAS; Resumed

10 CROSS-EXAMINATION BY MR. GREENSPOON:

11 Q. Yesterday, Panel, there was an
12 evidentiary problem with Exhibit 47, and I understand
13 that you have now had a chance to look at that.
14 Particularly, I pointed out to you on my copy on the
15 second page, the pages are not numbered, but where the
16 columns switch to sideways, so there are two facing
17 pages.

18 On the left-hand side there is a
19 paragraph that begins "Maneuvering," and I don't know
20 if I can pronounce the mythological names, but...

21 "Maneuvering between Scylla and
22 Charybdis, the Commission's approach is
23 to favour a combination --"

24 THE CHAIRMAN: What Commission is this,
25 please. Is that the Hydro Commission?

1 Brundtland Commission. All right, thank
2 you. I'm sorry, Mr. Greenspoon.

3 MR. GREENSPOON: No problem.

4 Q. "...the Commission's approach is to
5 favour a combination of energy efficiency
6 and conservation, coupled to successful
7 economic growth and distribution
8 policies, and based on renewable energy
9 as the cornerstone. This is likely to be
10 the most prudent approach, since it seems
11 probably that the more efficient the
12 system is and the more renewables there
13 are in the system, the easier will the
14 long-term problems be to solve. The
15 environmental, economic and social
16 consequences of high energy global
17 scenarios, such as if everyone enjoyed
18 current industrial country energy use per
19 capita, are serious, and it can be safely
20 concluded that this is not a realistic
21 future."

22 My question is, given that this is an
23 exhibit filed by Ontario Hydro in support of your
24 undertaking, how has Ontario Hydro taken that scenario,
25 that future, into account in its forecasting?

1 MR. BURKE: A. Well, I think the
2 critical portion of this is a sort of hypothetical
3 point that is being made, that is it's suggesting if
4 everyone enjoyed current industrial country energy use
5 per capita, and so on. I think this is a worthy goal
6 and I think the Brundtland Commission's goals are
7 laudable.

8 The issue that really pertains is to,
9 realistically, do we think in the time period that we
10 are planning for - which while it may seem like a long
11 period, I think is perhaps not long, in the terms that
12 the transition to sustainable development requires -
13 whether in fact it will make a material difference to
14 the planning we do. And that, as we have discussed
15 before, is not clear.

16 I think the article is an interesting
17 one, in that it highlights political and institutional
18 difficulties in making the transition to sustainable
19 development. It's not seen as a technological problem,
20 but more as a political and institutional one. And
21 there is a reference later on in the article to the
22 similarity between issues - I think it is on the second
23 last page - to the similarities between the issues that
24 are entailed in sustainable development and effectively
25 redistribution of global income, which is part of the

1 thesis, to the difficulties to achieve such
2 redistribution that have been experienced in the past.

3 I don't think people are opposed at all
4 to the goal. The practical realities have been that
5 very little has been accomplished in a long period of
6 time.

7 Essentially, I would have to say, as the
8 bottom line, we have looked at Ontario and how it's
9 evolving, without assuming a radical change in the way
10 global wealth is allocated. I think that is a
11 reasonable -- I think it's a reasonable description of
12 what we have done. It may not be from some
13 perspectives a desirable way to go, but it certainly is
14 the way the world has worked has worked for a long
15 time, and while it may move directionally towards some
16 of the goals of the Commission, it's not clear to me
17 that it is going to move very much more rapidly than we
18 have in the last 10 or 20 years.

19 I don't know whether Mr. Rothman has
20 comments on that.

21 MR. ROTHMAN: A. I would just add that
22 going back to your original quote, "The Commission's
23 approach is to favour a combination of energy
24 efficiency and conservation, coupled to successful
25 economic growth and distribution policies," it seems to

1 me is very much what our forecasts suggests, that
2 Ontario Hydro is talking about energy efficiency and
3 conservation to the extent that it is feasible within
4 the economic context of Ontario. And based on
5 renewable energy as the cornerstone, which is the last
6 of the sentence I quoted, you might argue is not in
7 Ontario Hydro's plan.

8 But we are looking at the demand
9 forecast, rather than at an energy supply forecast, and
10 it seems that we have taken this tendency towards
11 increased economic efficiency, increased energy
12 efficiency, into account in our forecasts.

13 The question, then, here is not one of
14 direction but of degree and of speed.

15 Q. Thank you for those answers.

16 The second area I wanted to cover was a
17 couple of things about GDP. You are familiar with the
18 LETS system? Does that ring a bell with you, Mr.
19 Rothman?

20 A. The LETS?

21 Q. LETS. It's an acronym, it stands for
22 Local Economic Trading System.

23 THE CHAIRMAN: Local Economic?

24 MR. GREENSPOON: Trading System.

25 Q. It's basically a system of

1 alternative economies, where using a computer data
2 base, people who have services to give, give those
3 services and get credits.

4 So if you are carpenter, you can go do
5 carpentry work, and you get credit for the carpentry.
6 If you need a lawyer -- you didn't have to have done
7 the work for the lawyer, but if he is in the data base,
8 you can draw on your credit. So it's a non-monetary
9 exchange.

10 It's growing community by community.
11 There is a number of communities on Vancouver Island,
12 in Vancouver. There are a couple of towns, Bobcaygeon
13 in Ontario. It's widely cited in environmental
14 newspapers and journals, with instructions how to set
15 it up. Basically, you need a computer and a number of
16 people that are interested in participating.

17 Anyway, to get to the point. This would
18 be clearly something, if it grew, that would not be
19 captured by GDP.

20 MR. ROTHMAN: A. Yes, that probably
21 wouldn't. There is already a lot of economic activity
22 that isn't measured in the GDP.

23 Q. Yes, I was going to just list them.

24 A. The underground economy is the
25 obvious case in point. But I mean, certain kinds of

1 economic activity, which are illegal, for various
2 reasons, take place but are not captured in GDP.

3 Q. Just a minute.

4 A. For example, the drug trade exists,
5 but is not captured in GDP.

6 Q. Well, I am not talking about illegal
7 activity, Mr. Rothman.

8 If a good was produced last year, a
9 refrigerator, and it sold this year, that's not
10 captured in GDP, this year's sale?

11 A. The activity of producing the
12 refrigerator--

13 Q. That was last year.

14 A. --if done properly would be captured
15 in last year's GDP. The activity associated with the
16 retail activity of selling the refrigerator would be
17 captured in this year's GDP.

18 Q. No. If it was produced last year and
19 sold last year, and then the person that bought it sold
20 it, used, this year, that's not captured in GDP, the
21 used sale.

22 A. If it doesn't go through a dealer, it
23 would probably not be captured in GDP. And is isn't a
24 large contribution to GDP because the activity that
25 have occurs there is only the transfer of an asset from

1 one holder of an asset to another.

2 And that's a relatively small amount of
3 economic activity, insofar as there were any physical
4 movement. That is, if the refrigerator had to be
5 trucked from one site to another, then that would be
6 captured in GDP in some way.

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1 [10:13 a.m.] Q. All right. But in a renewable
2 world, in an environmentally aware world, what that
3 means is that - I put to you - that GDP discriminates
4 against durability and secondhand goods.

5 Your forecast isn't focusing. You just
6 said it. You said, we don't value that; that that is
7 not the kind of thing we are measuring. So basing
8 things on GDP discriminates against durability and
9 secondhand goods.

10 A. You are inferring, I think, a value
11 on GDP. GDP is a description. It is a way to measure
12 the total output of goods and services in an economy.

13 It is not clear what you mean then by
14 saying GDP discriminates against some activity or
15 other, or some group of activities.

16 Q. Well, it doesn't take it into
17 account.

18 A. Yes, it would not be included in
19 measuring GDP. When I spoke in evidence in-chief, I
20 talked about the ways that -- one of the reasons that
21 the service sector has grown, for example, is that some
22 kinds of activity have come to be included in GDP which
23 were not measured before; namely, some kinds of
24 household services which previously had been provided
25 within the household unit itself and, therefore, not

1 measured have come to be provided from outside the
2 household unit through a market system and, therefore,
3 start to be measured and counted as part of GDP.

4 Q. Right. So --

5 A. So the total of services hasn't
6 changed. The number of clean shirts is the same. But
7 if the shirts are done by a laundry, that is counted in
8 GDP. But if the clean shirts are provided by the
9 household to itself - the cleaning services are
10 provided by the household to itself, that is not
11 counted in GDP.

12 Q. Or if a farmer grows his own food and
13 eats it, that doesn't get into into the GDP?

14 A. No, or if I grow --

15 Q. Or if you grow your tomatoes --

16 A. If I grow rhubarb in my backyard--

17 Q. Right.

18 A. --it doesn't count in GDP.

19 Q. Do you grow rhubarb in your backyard?

20 A. No, but I would hope to.

21 Q. Good. Well, you have got the soil
22 down here for it.

23 MR. B. CAMPBELL: If he finishes his
24 testimony. (Laughter)

25 MR. GREENSPOON: Q. Right. I guess the

1 only other -- imputed shelter allowance, if I own my
2 own home and it is paid for, a rental allowance is not
3 factored into GDP.

4 MR. ROTHMAN: A. Yes, it is.

5 Q. Oh, it is?

6 A. Yes.

7 Q. Oh, okay. And the last area - and I
8 think you touched on this - I think the biggest sector
9 neglected by GDP is the household activity. When you
10 touched on it by somebody doing the shirts, hopefully
11 the person who wears them, does them.

12 A. I usually do, yes.

13 Q. Good. But there is a lot of
14 activity. If I paint my house, if I do my plumbing,
15 those are not captured. The cooking, all of those
16 things, all of the activity in the household except for
17 the goods and services that are consumed thereby, is
18 not counted in GDP; is that right?

19 A. That's correct.

20 Q. All right. Now, the third area I
21 wanted to cover was - I guess again to you, Mr.
22 Rothman - about budgeting.

23 Have you read this year's budget, the
24 1991 budget?

25 THE CHAIRMAN: Are you talking about the

1 provincial government budget?

2 MR. GREENSPOON: Q. The provincial
3 budget, yes, the one that came out a couple of weeks
4 ago?

5 MR. ROTHMAN: A. No.

6 Q. You haven't read it?

7 A. Not this year.

8 Q. You will read it?

9 A. I expect when I finish here that I
10 will read it.

11 Q. Okay. I won't ask you any questions
12 about it. You should read it.

13 A. I expect to.

14 Q. In your reading of the newspapers
15 about the budget - you have probably done that?

16 A. Yes.

17 Q. And did you read the 1990 budget, Mr.
18 Nixon's, I guess it would have been, would it?

19 A. Yes, I did read that.

20 Q. You read that.

21 Is your forecast more in keeping with his
22 budget or Mr. Laughren's budget from what you read or
23 can you answer that?

24 MR. BURKE: A. Well, I looked at the
25 economic forecast section of the budget. Is what you

1 are talking about, the economic forecast?

2 Q. I didn't really look at that section,
3 but --

4 THE CHAIRMAN: Perhaps you could be more
5 specific about what it is you want to it address.

6 MR. GREENSPOON: Q. I guess the tenure
7 of the budget.

8 MR. BURKE: A. Not the forecast.

9 THE CHAIRMAN: What is it you want them
10 to address in sort of --

11 MR. GREENSPOON: Well, given my friend's
12 position on the exhibit that I read yesterday, I am
13 reluctant to -- because I didn't give notice that I
14 would be using it.

15 There is a paragraph that I could read
16 from the budget, in the introduction, and maybe the
17 witnesses would comment on it.

18 My friend seems to be nodding in
19 agreement.

20 MR. B. CAMPBELL: I am, am I? I think if
21 you read the paragraph, I will then be in a position to
22 make some judgment on the matter and perhaps that would
23 be the sensible way to deal with it.

24 THE CHAIRMAN: So you are reading now
25 from the current budget?

1 MR. GREENSPOON: From the budget of this
2 month, of April.

3 In his address to the legislature, Mr.
4 Laughren, on the first page in the introduction, says:

5 "A prosperous and sustainable economy
6 provides secure well-paid jobs at high
7 levels of employment. It is an economy
8 where the quality, not just the quantity,
9 of economic growth is important.
10 Economic growth must be both
11 environmentally and socially sustainable
12 and all Ontarians must share fairly in
13 prosperity."

14 THE CHAIRMAN: What is your question?

15 MR. B. CAMPBELL: Is there a question?

16 MR. GREENSPOON: Q. Is your forecast more
17 in keeping with Mr. Nixon's budget or the direction
18 that that statement --

19 THE CHAIRMAN: Perhaps you can explain
20 what you consider the difference in Mr. Nixon's budget
21 was.

22 MR. GREENSPOON: Q. Well, I put it to
23 you, Witnesses, that this budget is going in a
24 direction different from the last budget; that this
25 government is heading in a direction that they are

1 calling sustainable prosperity.

2 Mr. Nixon's budget, I put to you, didn't
3 go in that direction. And is your forecast based on
4 the 1990 budget, or is it based on the new direction of
5 this government?

6 MR. ROTHMAN: A. The quote you had
7 talked about high employment and high paying jobs. And
8 it then talked about quality, not quantity, of economic
9 output. It goes back, to some extent, to the earlier
10 discussion of GDP.

11 The reason that we are interested in GDP
12 and the reason that we make that forecast is that we
13 want some measure of aggregate activity. We know that
14 it is not a perfect measure, as I have already
15 suggested. There are lots of kind of activity,
16 including some activity that should be market-based,
17 but isn't, because people, for various reasons,
18 deliberately keep activity out of the GDP, mostly for
19 tax reasons.

20 So we know that the GDP measure is an
21 imperfect one but it is what we have got and so we use
22 it for the load forecast and we want to understand that
23 relationship.

24 We can understand that the kinds of
25 trends that you are talking about could affect the

1 relationship between measured GDP and observed load,
2 and that is part of the consideration that Mr. Burke
3 makes when he does the load forecast.

4 But from the quote that you have given me
5 at this point, again, I am not clear that we can say
6 that there is some distinct difference in direction
7 between a direction that called for GDP growth as a
8 good, and a direction that says we want quality not
9 quantity of growth. That isn't well enough defined to
10 be able to say that we have a forecast that is or isn't
11 compatible with that direction.

12 And the question that I thought you were
13 asking about the difference between the two budgets was
14 that of their position on the fiscal stance of the
15 province.

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1 [10:23 a.m] And at this point, I see those as
2 cyclical differences, not necessarily as long-term
3 differences, so that I would say that insofar as our
4 forecast is compatible with any budget, it would have
5 to be compatible with Mr. Nixon's, since that's the one
6 that we had available when we made the forecast. And
7 that was the sense in which I would have said it was
8 compatible. It was compatible with the fiscal stance
9 of the provincial government and its economic policy
10 stance.

11 There may be some significantly different
12 economic policies from this government, and we may find
13 them when we read the budget more carefully; but at
14 this point, we have neither adjusted our forecast to
15 them, since they are new, nor have I seen such clear
16 definition of different economic policies as to change
17 a long-run forecast.

18 Q. Maybe Panel 10 and 11 will have read
19 the budget, and we can discuss it in terms of planning.

20 Anyway, the last area --

21 MR. BURKE: A. I just wanted to add
22 something.

23 Q. Sure.

24 A. It doesn't affect the long-term
25 forecast. But for what it is worth the economic

1 forecast for the period through to '94, prepared in
2 this budget, is in fact almost identical, certainly on
3 average, to the forecast that we are using for load
4 forecasting purposes in the updated forecast before
5 this Board. So that certainly in the short term, it
6 isn't making a difference to the GDP measure of output
7 as forecast by this government.

8 Q. Well, it is something like trying to
9 turn an ocean liner around. You first have to stop it
10 and it takes a long time to do that, doesn't it.

11 The last area I wanted to cover was sort
12 of a two-pronged approach. In my statement of
13 concerns, you will notice as sort of amended by
14 agreement with Hydro, you may have noticed I was going
15 to raise the issue of Hydro's internal economic
16 situation. Are you prepared to answer questions on
17 that? Are you aware of Hydro's debt, for example?

18 MR. ROTHMAN: A. The total debt and
19 Hydro's financing of it are not areas that I feel
20 qualified to talk about very much.

21 Q. I guess why I thought it was
22 appropriate, and I discussed this with Mr. Campbell,
23 was just from an economist's point of view -- and I
24 imagine, you know, you budget your salary and how you
25 spend your money.

1 It is my understanding that Hydro owes a
2 certain amount of money and has a certain amount of
3 assets, and my understanding is they are alleged to be
4 equal. Hydro owes \$30-billion and Hydro claims to have
5 \$30-billion in assets. Are those rough, ballpark?

6 A. I haven't looked at the asset and
7 liability statement of Ontario Hydro recently, but I
8 would guess that the accounting statements balance;
9 that is, that it is always going to be true that
10 Hydro's assets are going to be equal to the total
11 liabilities.

12 Q. Right.

13 A. And I would think that -- so that's
14 going to be true on the books.

15 My guess would be that the replacement
16 value, assuming that they are operable, of Ontario
17 Hydro's assets would be well beyond the liabilities in
18 the form of debt required to purchase those assets.

19 Q. But some of those assets would be
20 difficult to market. I mean if you had to sell
21 Pickering, there's not a big market for it.

22 My friend says it would be a bargain.
23 (Laughter)

24 A. There is certainly a market for its
25 electricity.

1 Q. Exactly, yes, exactly.

2 A. Well, I don't know.

3 Q. I guess to get to the question,
4 because you have said you are not an expert.

5 Is that good? Is that good economic
6 planning? I mean from an economist's point of --

7 THE CHAIRMAN: Is what good economic
8 planning?

9 MR. GREENSPOON: Q. Is it good to have a
10 debt load that close to the replacement value of your
11 assets?

12 THE CHAIRMAN: I don't think you have
13 laid the foundation for this question, Mr. Greenspoon.
14 I am sorry, but I think you have to lay a better
15 foundation than that before you can expect them to
16 answer.

17 MR. GREENSPOON: I will move on.

18 Q. In 1977, your forecast was, we said I
19 think in Exhibit... the Exhibit with the chart, the
20 matrix, Exhibit 117? Is it 117?

21 THE CHAIRMAN: 117, yes. It is 117.

22 Do you have it? Yes, you have it.

23 MR. GREENSPOON: Q. I think we talked
24 about that yesterday and I think one of you admitted
25 that your forecast was pretty well out in 1977. When

1 you were forecasting another 24 units, I think I had
2 said of nuclear power by 1996, it was a very, very bad
3 forecast.

4 MR. ROTHMAN: A. Well, it has proven not
5 to have been accurate.

6 Q. Now, I just want to talk without the
7 impact of these forecasts. In 1977, Ontario Hydro
8 entered into a contract with Denison Mines for a major
9 expansion plan in Elliot Lake. Hydro underwrote
10 houses. Hydro built a new city in Elliot Lake, and now
11 that city is dying, 14 years later.

12 THE CHAIRMAN: I am not quite sure what
13 that has to do with the evidence these people are asked
14 to give.

15 MR. GREENSPOON: Q. Well, do you take
16 that into --

17 THE CHAIRMAN: I don't say for a minute
18 it isn't a valid point, but I am not quite sure how
19 they can help you about this.

20 MR. GREENSPOON: Well, I think it is
21 right to the point, with all respect, if this is what
22 forecasting does. How do these people take into
23 account what happens as a result of what their forecast
24 was? They forecast in 1977 what has become a wild
25 projection of nuclear power and underwrote a whole

1 project in a community in Northern Ontario. And now
2 that community is dying, and the question is, why
3 didn't they forecast it?

4 THE CHAIRMAN: But we are dealing with
5 the 1988, '89 and '90 forecast today.

6 MR. GREENSPOON: Well, it seems to me,
7 sir, with all respect, that the fundamental issue of
8 credibility is based on past performance. The
9 credibility of the forecast is essential. The
10 credibility of the forecast --

11 THE CHAIRMAN: You can ask questions
12 about the validity of the forecast they made in 1977.
13 But what they did as a consequence of that forecast,
14 whatever that may be, is not something that these
15 people can answer.

16 MR. GREENSPOON: Q. It would be fair to
17 say that the ramifications of the 1988 forecast are
18 going to be -- I mean, the on-the-ground ramifications.
19 I am not saying - and I know you can't speculate - that
20 your forecast is as wrong in '88 as it was in '77. But
21 there are on-the-ground ramifications of the forecast
22 similar --

23 MR. B. CAMPBELL: Just a minute. These
24 witnesses are not the planners. We have a whole case
25 to put in. We will get to the planners who will say,

1 'Here is how we deal with this forecast. Here is how
2 we deal with the uncertainty in the forecast.' I think
3 it is quite unfair to put these questions to this
4 panel. They are not the panel that are dealing with
5 these matters. I can't bring the whole case in front
6 of you all at one time. We have to deal with it in
7 certain chunks and these aren't the right people.

8 THE CHAIRMAN: I think you can ask them
9 about the methodology and how they did their
10 forecasting if that's something you want to explore
11 with them to the extent they are able to, but what the
12 proponent did as a result of the forecast is not a
13 matter that these witnesses have any ability to answer.

14 MR. GREENSPOON: Okay.

15 Q. Do you talk to the planners?

16 MR. ROTHMAN: A. Yes.

17 Q. What do they tell you?

18 THE CHAIRMAN: About what?

19 MR. GREENSPOON: About the plan.

20 THE CHAIRMAN: About this current plan?

21 MR. ROTHMAN: We talk to the planners
22 about their need for forecast information.

23 As an example, Mr. Burke has said a few
24 times that the planners, too, found it very difficult
25 to deal with an uncertainty band as wide as the one the

1 previous methodology had produced. So that, in
2 addition to the comment from outside Hydro that that
3 uncertainty band was too wide to be useful, we had
4 feedback from inside Hydro from the planners that that
5 uncertainty band was too wide to be useful, and those
6 were the reasons that we reviewed that uncertainty band
7 methodology and produced a new uncertainty band.

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1 [10:32 a.m.] But the planners don't come to us and
2 say, do you realize that because of your forecast we
3 will have to take the following three planning steps;
4 that's not part of the communication that we have with
5 them, nor should it be.

6 We need to know what kind of forecasts
7 they need and we need to know when they need them, so
8 we talk to them about that.

9 MR. GREENSPOON: Q. So in your plan do
10 you forecast the implications of the reactor on the
11 North Channel, the economic implications to the
12 communities and how that's going to affect load?

13 MR. ROTHMAN: A. My division, though not
14 the Load Forecast Department, is responsible for
15 studies of the aggregate economic impact of Ontario
16 Hydro activities on the economy of Ontario. So when
17 this plan was developed, as it became better defined,
18 we did perform an economic impact study, which looked
19 in a very aggregate way at what the impact would be on
20 Ontario of the activity level implied by the plan.

21 We did not look at what that impact would
22 be on specific communities in part because the plan
23 doesn't carry a statement of specific community or
24 regional impact with it. There is no site
25 specifications, no site proposals in this plan.

1 There is another organization within
2 Ontario Hydro that's responsible for what are called
3 "community impact studies." Those are performed when
4 there is a specific site proposed for a specific
5 activity like this, specific major activity like
6 building a generating station, and they do,
7 effectively, a community impact study to look at what
8 happens to a community when such a major facility is
9 placed in or near that community.

10 Q. So the difference between the impact
11 of Ontario Hydro's economic activity, as you put it, in
12 Northern Ontario, and given the Elliot Lake example of
13 how serious those impacts are, and how different the
14 impacts are on Northern Ontario when Hydro moves in,
15 for all the reasons, high wages, all of those reasons,
16 you don't study that? You don't differentiate between
17 the impact of a project in Northern Ontario and the
18 impact of a project in Southern Ontario?

19 MR. B. CAMPBELL: With respect, Mr.
20 Chairman, I think he has already answered the question.
21 He said when there is a specific project looked at, the
22 community impacts are considered. Hasn't he already
23 said that?

24 THE CHAIRMAN: I thought so. They do a
25 community impact study, he said.

1 MR. GREENSPOON: Yes, but I understood
2 that that's later.

3 Q. That would not be in conjunction with
4 the Demand/Supply Plan?

5 MR. ROTHMAN: A. No, that was not in
6 conjunction with the Demand/Supply Plan.

7 Q. So in conjunction with the
8 Demand/Supply Plan there are no community impact
9 studies differentiating, even if it was generic for the
10 North and generic for the South, you haven't done that?

11 A. No. As Mr. Burke suggested, we have
12 done some regional forecasts; and in the course of our
13 physical unit forecasts that Dr. Buja-Bijunas needs for
14 her end-use forecasting, we are aware of what is
15 happening with certain industries in the North.

16 For one example, I have talked to the
17 analyst who does those physical unit forecasts, and he
18 was well aware of the hearings, the forestry hearings
19 in Northern Ontario that you mentioned yesterday,
20 because it's he who is responsible for that aggregate
21 forecast of activity in the pulp and paper industry.

22 But we haven't done specific impact
23 studies for Ontario Hydro either in Northern or
24 Southern Ontario. As I said, part of it is that there
25 is no specification of where the economic activity

1 associated with the implementation of the Demand/Supply
2 Plan would take place.

3 MR. GREENSPOON: Well, I am glad somebody
4 in Hydro has heard about the environmental assessment
5 on timber management.

6 Those are all my questions. Thank you,
7 Mr. Chairman.

8 THE CHAIRMAN: Thank you, Mr. Greenspoon.

9 Next is Ontario Public Health
10 Association.

11 ---Off the record.

12 MR. M. CAMPBELL: Thank you, Mr.
13 Chairman. My name is Martin Campbell. I act for the
14 Ontario Public Health Association and the International
15 Institute of Concern for Public Health. My major
16 concerns are the public health aspects of Hydro's plan.

17 If in the course of my questions, I
18 misuse a technical term, I assure you it is not a trick
19 or trap on my part; it's an outright blunder, so please
20 don't hesitate to correct me if I misuse an expression.

21 CROSS-EXAMINATION BY MR. M. CAMPBELL:

22 Q. I would like to start with the
23 demand/supply report, page 3-8, if I may. I have a
24 question on forecasting. I refer specifically to the
25 heading entitled "Factors in Forecasting, Major Trends

1 Driving Future Growth," and it's listed here that the
2 three most important factors are the general level of
3 economic activity, the price of electricity, the price
4 of competing fuels.

5 As I read this, it suggests to me that
6 price is the major determinant of consumer behaviour
7 and demand; and looking at that on a sector-by-sector
8 basis, I can see that that would apply perhaps in the
9 industrial sector. But I would like to have the
10 comments of the panel on whether or not price is the
11 only determinant in perhaps the commercial or the
12 residential sector, and what other determinants there
13 might be which would affect demand?

14 MR. BURKE: A. Well, in general terms,
15 economic activity is the major determinant of
16 electricity demand in each of the sectors. And the
17 effect of electricity price, the significance of it
18 varies by sector, but effectively it's a secondary
19 factor. It would influence perhaps the intensity of
20 use of electricity in a sector or perhaps the market
21 share of electricity in a sector, but it's not the
22 major factor at all.

23 If you look at the change in the forecast
24 between 1990 and 2015, the vast majority of the change
25 in the load forecast is determined by the change in

1 economic activity. And the effect of prices, given
2 that there is about a 25 per cent change in rates over
3 that 25-year period, that effect is roughly to reduce
4 the increment which we have of about 50 per cent or so,
5 and load is reduced to about 10 per cent, I suppose.
6 That is the net after the 10 per cent reduction for the
7 effect of the price increase. So relatively speaking,
8 the GDP component is much more important than the price
9 is.

10 Q. Well, perhaps I can make my major
11 concern a bit more clear. I am concerned about the
12 effect of consumer behaviour in perhaps the reduction
13 in demand for electricity supply. You will alter your
14 behaviour based on certain criterion, one of which
15 might be price, but one of which might be concern over
16 the environment or concern over public health effects.

17 Does your forecast take into account
18 changes in consumer behaviour based on concerns other
19 than price, concerns such as a real or perceived health
20 risk in the generation of electricity, or a real or
21 perceived environmental risk in the generation of
22 electricity?

23 DR. BUJA-BIJUNAS: A. I guess what I
24 would have to say is, when we do the end-use forecast
25 and we look at things like efficiency assumptions for

1 the future or utilization assumptions for the future,
2 those parameters are driven by price and income levels
3 and age of a decision-maker and other parameters like
4 that. We don't have a parameter in there right now for
5 the issue you just raised, health concerns.

6 All I can say is that what we have tried
7 to do is incorporate in those equations the sort of
8 factors that reproduce behaviour in the past, how
9 somebody responds based on their income levels, et
10 cetera, and have kept that relationship for the future,
11 adjusted judgmentally to some extent.

12 Q. Very well. Could I just ask you to
13 turn to page 3-6 of the demand/supply report? And I am
14 looking at the portion of the page which is in darkened
15 ink, the Electricity Growth by Sector. Could I just
16 ask this question by way of example?

17 In the third column there is a reference
18 to two major trends dominating the period 1962 to 1976,
19 this being electrical space heating in new housing
20 moving from 0 to 11 per cent, and purchases of
21 energy-using appliances.

22 Are these consumer shifts or consumer
23 changes which would be picked up in your forecasting or
24 would they not be picked up in your forecasting?

25 A. Yes. The current marginal pick up of

1 electricity for space heating, meaning the percentage
2 of new homes currently electrically heated, is looked
3 at just as what has been happening historically and why
4 there has been a growth, what factors have accounted
5 for that growth in the choice of electricity, the space
6 heating option. That's considered. And future space
7 heating choice is not kept at current levels. It's not
8 assumed whatever is happening right today will
9 necessarily be what will be happening in the future.

10 Whatever relationships we felt the data
11 indicated was responsible for consumer choice, a space
12 heating fuel, we have used those relationships and
13 other parameters such as income, et cetera, to account
14 for what fuel choice would be in the future, and the
15 same with penetration of dishwashers or other consumer
16 goods. What accounted for that historically and using
17 that information what seems likely to be the pickup of
18 these goods in the future.

19 Q. Just out of curiosity, were those
20 trends picked up in '62 when the forecasting was
21 ongoing at that point? Just out of curiosity; it's not
22 a critical question.

23 MR. BURKE: A. At that stage we were not
24 using end-use forecasting methodology, and so I guess
25 we would have to say that we weren't looking at it

1 quite as specifically. I would think, though, that the
2 forecasters of the day were aware of especially the
3 space heating trend and the appliance trend, but it
4 wasn't perhaps quantified as explicitly as we do today.

5 Q. I see. I would like to turn to
6 Volume 2 of the transcript, and I am going to refer to
7 a question which was put at page 312, line 10. This
8 has to do with risks to forecasting.

9 I believe, Mr. Rothman, you identified
10 three risks to the forecast and you restricted your
11 answer to economic forecasts, and these have to do with
12 environmental regulation, political circumstances, and
13 the overall economy. And I gather that the risks would
14 have the effect of either a substantial reduction or an
15 increase in the gross domestic product, depending on
16 how they played themselves out. Is that the effect of
17 uncertainty in this area?

18 MR. ROTHMAN: A. Yes.

19 Q. You are uncertain as to the extent to
20 which the GDP alters this or varies?

21 A. Yes.

22 Q. Are consumer trends captured in any
23 of the risks which you identified?

24 A. None of the risks that I identified
25 had to do with differences in consumer behaviour --

1 with consumer behaviour significantly different from
2 that of the past.

3 That is one of the risks related to
4 changes in consumption behaviour such as consumers
5 didn't react to income and prices in ways different
6 from the ways they have reacted in the past.

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1 [10:49 a.m.] Q. I see. Now, why would your
2 identification of the risks not include changes of this
3 sort?

4 And I don't want to mislead you here; I
5 am also referring to page 315, towards the bottom of
6 the page wherein you commented on the impact of the
7 Green Plan or sustainable development.

8 And you say at line 24:

9 "We haven't put anything like that
10 into the forecast partly because you
11 can't make a quantified analysis."

12 Is that the reason for the absence of the
13 consumer shift factor?

14 A. I would say that I don't believe that
15 there is a significant break in consumer behavior.

16 I am not sure that the people who do the
17 forecasts agree with me, but I still believe the
18 consumers tend to respond to the stimulus of prices and
19 income in very much the same ways as they have in the
20 past. And I don't see that there have been or are
21 likely to be any significant breaks from that.

22 So, one of the reasons that there isn't
23 such a risk seen to the forecast is that I haven't seen
24 it as a significant risk nor have the people who have
25 done the economic forecast.

1 THE CHAIRMAN: Just so I understand, if
2 the risk became a reality, its impact on the forecast
3 would be as a result of consumer behavior responding to
4 the reality of the risk; would that be right?

5 MR. ROTHMAN: The risk that I might see
6 would be, for example, that consumers choose a
7 significant shift in behavior away from purchasing the
8 kinds of goods and services that they have in the past
9 towards purchasing some different set of goods and
10 services that had quite different production
11 characteristics, so that the nature of the output that
12 consumers were choosing to buy was significantly
13 different from the nature of the output that they now
14 choose to buy.

15 That could have an aggregate impact on
16 long-term potential GDP through changing the nature of
17 the production facilities that producers choose to put
18 in place.

19 I mean, an example would be -- just to
20 give some concrete example: If everyone chooses to
21 ride bicycles instead of cars, or if there is a
22 significant shift in riding bicycles as opposed to
23 cars, then eventually, there would be no further
24 investment or much less further investment in
25 automobile manufacture. There would be more investment

1 in bicycle manufacture, but bicycle manufacture is much
2 less capital and material intensive than is automobile
3 manufacture, so we might have a very different looking
4 economy and a different level of GDP, of measured GDP -
5 to pick up Mr. Greenspoon's theme - than we now have.

6 We haven't put that kind of significant
7 shift in consumer behavior into the forecast, as I
8 said, partly because I don't see it as a major risk at
9 this point, and partly for the kinds of reasons that
10 Mr. Campbell was talking about, that it is, again, a
11 fairly amorphous kind of concept that would be
12 difficult to quantify. We would have to think up our
13 own scenarios, as I just did, in order to be able to
14 model it.

15 MR. M. CAMPBELL: Q. But when you say
16 that you do not foresee a significant risk in the
17 changes as a result of that, are you basing that on any
18 data or studies or is it just basing your experience in
19 many years in this field?

20 MR. ROTHMAN: A. There are some studies
21 which suggest that much of previous consumer behavior
22 in relation to changes in energy prices, for example,
23 can be explained by the standard models which take into
24 account price and income; that we don't have to look to
25 some significant shift in consumer attitudes to explain

1 past consumer behavior.

2 There are also studies that say there has
3 been a shift, for example, in energy use patterns. So,
4 it is partly my own reading of what the research has
5 said and part ...

6 Q. Let me give you two or three
7 examples - and I am not going to ask you detailed
8 questions about these, but I think they are partly
9 common knowledge.

10 For example, in 1965, it would be hard to
11 buy a car with a seat belt in it; in 1991, you can't
12 buy a car unless it has got a seat belt in it. That is
13 a significant issue for the seat belt industry, I would
14 presume.

15 For example, tobacco, the combination of
16 heavy taxation and public health campaign has an effect
17 on the demand for tobacco.

18 For example, Metro's Blue Box Campaign
19 may have an effect of tonnes of waste which must be
20 disposed of.

21 These, to my mind, are significant shifts
22 in consumer behavior which have a very direct effect on
23 certain industries and you don't see that same sort of
24 shift as a potential with respect to the demand for
25 energy.

E R R A T A
and
C H A N G E S

To transcript for Monday, the 6th day of May, 1991,
Volume 8.

<u>Page No.</u>	<u>Line No.</u>	<u>Discrepancy</u>
(iv)	6	Exhibit No. 1.1.7 Should be Exhibit No. 117.



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